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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ADDY, ANTHONY S	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.**	**Applicant(s)**
	10/688,157	MANGAL ET AL.
	Examiner	**Art Unit**
	Anthony S. Addy	2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/06/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to applicant's amendment filed on March 06, 2007. **Claims 1-24** are pending in the present application.

Response to Arguments

2. Applicant's arguments with respect to **claims 1-24** have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-6, 8, 16-18 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Connor, U.S. Publication Number 2004/0002339 A1 (hereinafter O'Connor)** and **Bansal et al., U.S. Publication Number 2004/0264500 A1 (hereinafter Bansal).**

Regarding claims 1 and 16, O'Connor teaches in a wireless communication system (see Fig. 1) adapted to provide communication services to multiple mobile stations (*e.g. wireless handsets 12*) within a given coverage area (see p. 3 [0049] and Fig. 1), wherein the system dynamically allocates radio frequency bandwidth among the mobile stations according to a bandwidth allocation algorithm (see p. 2 [0021] and p. 4 [0057] [*i.e. the teaching of O'Connor that radio frequency bandwidth is dynamically allocated based on the number of mobile devices that has stopped or restarted*

transmitting traffic on the network equates to the limitations of "the system dynamically allocates radio frequency bandwidth among the mobile stations according to a bandwidth allocation algorithm," since the allocated bandwidth on the network inherently has an associated allocation algorithm that is based on the number of mobile devices that has stopped or restarted transmitting traffic on the network]), and wherein the radio frequency bandwidth is used to send voice or data traffic to the mobile stations as part of providing the communication services to the mobile stations (see p. 3 [0052] and p. 4 [0057-0058]), a method comprising: determining a number of active mobile stations that are concurrently operating in the given coverage area (see p. 3 [0052]); and determining that an amount of voice or data traffic buffered at a base station for transmission to a mobile station as part of providing the communication services is above a predetermined threshold amount (see p. 4 [0057] and p. 5 [0077]).

Although, O'Connor fails to explicitly teach determining that the number of active mobile stations exceeds a threshold and responsively changing the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth among the mobile stations, however, one of ordinary skill in the art recognizes that O'Connor's teaching of dynamically allocating radio frequency bandwidth based on the number of mobile devices that has stopped or restarted transmitting traffic on the network (see p. 3 [0052] and p. 4 [0057-0058]) broadly reads on the limitations of "determining that the number of active mobile stations exceeds a threshold and responsively changing the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth among the

mobile station, since O'Connor teaches radio frequency bandwidth is dynamically allocated based on a threshold number of mobile devices that has stopped or restarted transmitting traffic on the network. For example, O'Connor teaches when the network bandwidth allocation device receives a suspend packet from a mobile device, it realizes that the bandwidth available to the network has increased (since no outgoing traffic will occur from the device in question until a resume packet is received) and accordingly can ***dynamically allocate additional bandwidth to one or more devices on the network*** by issuing a codec control signal to the one or more other devices and thereby increase their signal quality (see p. 4 [0057]) in combination with the teaching of O'Connor above of dynamically allocating radio frequency bandwidth based on the number of mobile devices that has stopped or restarted transmitting traffic on the network clearly reads on the limitations of "determining that the number of active mobile stations exceeds a threshold and responsively changing the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth among the mobile stations."

Furthermore, Bansal teaches in an analogous field endeavor, a method and apparatus for policy-based dynamic preemptive scheduling of data transmissions, wherein bandwidth allocations to various flows are dynamically updated by a bandwidth allocation adaptor and a variety of weighted fair queuing algorithms may be used once the dynamic bandwidth allocation algorithm determines the bandwidth allocation for the various flows (see p. 5 [0046] and p. 6 [0055]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor with Bansal to include a method of responsively changing the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth among mobile stations, in order to dynamically allocate system bandwidth using a wide range of adaptive algorithms that depend upon a nominal channel power level and an average effective data rate of mobile stations in a given coverage area to thereby increase their signal quality.

Regarding claims 2 and 17, O'Connor in view of Bansal teaches all the limitations of claims 1 and 16. O'Connor in view of Bansal further teaches a computer readable medium having stored therein instructions for causing a processor to execute the method of claims 1 and 16 (see *O'Connor*, p. 5 [0077]).

Regarding claim 20, O'Connor teaches a wireless communication system (see Fig. 1) comprising: a base station (*wireless base station 10*), having an antenna arrangement for communication over an air interface with a plurality of mobile stations (*e.g. wireless handsets 12*) in a given coverage area (see p. 3 [0049] and Fig. 1), wherein the base station dynamically allocates bandwidth to the mobile stations according to a bandwidth allocation algorithm (see p. 2 [0021] and p. 4 [0057] [*i.e. the teaching of O'Connor that radio frequency bandwidth is dynamically allocated based on the number of mobile devices that has stopped or restarted transmitting traffic on the network equates to the limitations of "the system dynamically allocates radio frequency bandwidth among the mobile stations according to a bandwidth allocation algorithm," since the allocated bandwidth on the network inherently has an associated allocation*

algorithm that is based on the number of mobile devices that has stopped or restarted transmitting traffic on the network]), and program logic, stored in data storage and executable on a processor (see p. 5 [0077]), to determine that a number of active mobile stations are operating concurrently operating in the given coverage area (see p. 3 [0052]).

Although, O'Connor fails to explicitly teach changing the bandwidth allocation algorithm based on the number, so as to change how the system dynamically allocates the radio frequency bandwidth, however, one of ordinary skill in the art recognizes that O'Connor's teaching of dynamically allocating radio frequency bandwidth based on the number of mobile devices that has stopped or restarted transmitting traffic on the network (see p. 3 [0052] and p. 4 [0057-0058]) broadly reads on the limitations of "changing the bandwidth allocation algorithm based on the number, so as to change how the system dynamically allocates the radio frequency bandwidth," since O'Connor teaches radio frequency bandwidth is dynamically allocated based on a threshold number of mobile devices that has stopped or restarted transmitting traffic on the network. For example, O'Connor teaches when the network bandwidth allocation device receives a suspend packet from a mobile device, it realizes that the bandwidth available to the network has increased (since no outgoing traffic will occur from the device in question until a resume packet is received) and accordingly can ***dynamically allocate additional bandwidth to one or more devices on the network*** by issuing a codec control signal to the one or more other devices and thereby increase their signal quality (see p. 4 [0057]) in combination with the teaching of O'Connor above of

dynamically allocating radio frequency bandwidth based on the number of mobile devices that has stopped or restarted transmitting traffic on the network clearly reads on the limitations of "changing the bandwidth allocation algorithm based on the number, so as to change how the system dynamically allocates the radio frequency bandwidth."

Furthermore, Bansal teaches in an analogous field endeavor, a method and apparatus for policy-based dynamic preemptive scheduling of data transmissions, wherein bandwidth allocations to various flows are dynamically updated by a bandwidth allocation adaptor and a variety of weighted fair queuing algorithms may be used once the dynamic bandwidth allocation algorithm determines the bandwidth allocation for the various flows (see p. 5 [0046] and p. 6 [0055]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor with Bansal to include changing the bandwidth allocation algorithm based on the number, so as to change how the system dynamically allocates the radio frequency bandwidth, in order to dynamically allocate system bandwidth using a wide range of adaptive algorithms that depend upon a nominal channel power level and an average effective data rate of mobile stations in a given coverage area to thereby increase their signal quality.

Regarding claims 3, 4, 5, 21, 22 and 23, O'Connor in view of Bansal teaches all the limitations of claims 1 and 20. O'Connor in view of Bansal further teaches a wide range of adaptive algorithms may be constructed depending upon the particular circumstances of the communication system to support the number of members of the defined groups (see Bansal, p. 5 [0046] and p. 6 [0054-0055]).

The combination of O'Connor and Bansal fails to explicitly teach switching the bandwidth allocation algorithm to a maximum-aggregate-traffic algorithm, common-data-throughput algorithm or a common-power algorithm. However, it would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system of O'Connor and Bansal to include, switching the bandwidth allocation algorithm to a maximum-aggregate-traffic algorithm, common-data-throughput algorithm or a common-power algorithm, in order to dynamically allocate system bandwidth using a wide range of adaptive algorithms that depend upon a nominal channel power level and an average effective data rate of mobile stations in a given coverage area.

Regarding claim 6, O'Connor in view of Bansal teaches all the limitations of claim 1. O'Connor in view of Bansal further teaches a method, wherein responsively changing the bandwidth allocation algorithm comprises: switching the bandwidth allocation algorithm to use a first bandwidth allocation algorithm to allocate the radio frequency bandwidth among mobile stations within a first group of mobile stations; and switching the bandwidth allocation algorithm to use a second bandwidth allocation algorithm to allocate the radio frequency bandwidth among mobile stations with a second group of mobile stations (see Bansal, p. 5 [0046] and p. 6 [0054-0055).

Regarding claims 8 and 24, O'Connor in view of Bansal teaches all the limitations of claims 1 and 20. O'Connor in view of Bansal further teaches a system, wherein the base station communicates over an air interface with the mobile stations, and wherein the mobile stations are mobile phones (see O'Connor, p. 3 [0049] and Fig. 1), but fails

to explicitly teach the base station uses CDMA. However, one of ordinary skill in the art recognizes it would have been obvious to implement the wireless base station as taught by O'Connor to use CDMA in order to allow multiple mobile devices to share the same spectrum at the same time to maximize network bandwidth resources.

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system of O'Connor and Bansal, wherein the base station uses CDMA in order to allow multiple mobile devices to share the same spectrum at the same time to maximize network bandwidth resources.

Regarding claim 18, O'Connor in view of Bansal teaches all the limitations of claim 16. O'Connor in view of Bansal further teaches a method, determining that the amount of voice or data traffic buffered at the base station for transmission to the mobile station as part of providing communication services is below the predetermined threshold; and responsively decreasing the amount of bandwidth allocated to the mobile station for transmitting the communication traffic from the base station to the mobile station (see *O'Connor*, p. 2 [0032] and p. 4 [0057-0058]).

5. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Connor, U.S. Publication Number 2004/0002339 A1 (hereinafter O'Connor)** and further in view of **Lee et al., U.S. Patent Number 6,138,025 (hereinafter Lee).**

Regarding claim 9, O'Connor teaches in wireless network adapted to provide communication services concurrently to multiple stations (*e.g. wireless handsets 12*) operating within a given coverage area (see p. 3 [0049] and Fig. 1), a method comprising: and determining that a threshold number of mobile stations being provided

communication services are concurrently operating in a given coverage area (see p. 3 [0052]).

Although, O'Connor fails to explicitly teach responsively changing a bandwidth allocation algorithm, however, one of ordinary skill in the art recognizes that O'Connor's teaching of dynamically allocating radio frequency bandwidth based on the number of mobile devices that has stopped or restarted transmitting traffic on the network (see p. 3 [0052] and p. 4 [0057-0058]) broadly reads on the limitations of "responsively changing a bandwidth allocation algorithm based on a threshold number of mobile stations being provided communication services, since O'Connor teaches radio frequency bandwidth is dynamically allocated based on a threshold number of mobile devices that has stopped or restarted transmitting traffic on the network. For example, O'Connor teaches when the network bandwidth allocation device receives a suspend packet from a mobile device, it realizes that the bandwidth available to the network has increased (since no outgoing traffic will occur from the device in question until a resume packet is received) and accordingly can ***dynamically allocate additional bandwidth to one or more devices on the network*** by issuing a codec control signal to the one or more other devices and thereby increase their signal quality (see p. 4 [0057]) which in combination with the teaching of O'Connor above of dynamically allocating radio frequency bandwidth based on the number of mobile devices that has stopped or restarted transmitting traffic on the network clearly reads on the limitations of "responsively changing a bandwidth allocation algorithm based on a threshold number of mobile stations being provided communication services."

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor to include a method of responsively changing a bandwidth allocation algorithm based on a threshold number of mobile stations being provided communication services, in order to dynamically allocate system bandwidth using a wide range of adaptive algorithms that depend upon a nominal channel power level and an average effective data rate of mobile stations in a given coverage area to thereby increase their signal quality.

O'Connor fails to explicitly teach the wireless network is a CDMA network and wherein the bandwidth allocation algorithm is used to allocate a forward supplemental channel among the mobile stations and wherein the forward supplemental channel is used to send voice or data traffic from a base station to the mobile stations as part of providing communication services.

In an analogous field of endeavor, Lee teaches a method of distributing paging load in a multicell CDMA wireless network that supports wireless communications with a plurality of mobile units within a given service area (see col. 4, line 53 through col. 5, line 4), wherein a bandwidth allocation algorithm is used to allocate a forward supplemental channel (*e.g. FBCCH*) among the mobile stations and wherein the forward supplemental channel is used to send voice or data traffic from a base station to the mobile stations as part of providing communication services (see col. 3, lines 20-24, col. 5, lines 16-24, col. 6, lines 8-11 & 25-30 and col. 11, lines 52-64).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor with Lee to include a method, wherein the wireless

network is a CDMA network and wherein the bandwidth allocation algorithm is used to allocate a forward supplemental channel among the mobile stations and wherein the forward supplemental channel is used to send voice or data traffic from a base station to the mobile stations as part of providing communication services, in order to allow multiple mobile stations to share the same spectrum at the same time to maximize network bandwidth resources.

Regarding claim 10, O'Connor in view of Lee teaches all the limitations of claim 9. O'Connor in view of Lee further teaches a computer readable medium having stored therein instructions for causing a processor to execute the method of claim 9 (see *O'Connor*, p. 5 [0077]).

6. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Connor, U.S. Publication Number 2004/0002339 A1 (hereinafter O'Connor)** and **Lee et al., U.S. Patent Number 6,138,025 (hereinafter Lee)** as applied to claim 9 above, and further in view of **Bansal et al., U.S. Publication Number 2004/0264500 A1 (hereinafter Bansal).**

Regarding claims 11, 12, 13, O'Connor in view of Lee teaches all the limitations of claim 9. O'Connor in view of Lee fails to explicitly teach switching the bandwidth allocation algorithm to a maximum-aggregate-traffic algorithm, common-data-throughput algorithm or a common-power algorithm.

In an analogous field of endeavor, Bansal teaches a method and apparatus for policy-based dynamic preemptive scheduling of data transmissions, wherein bandwidth allocations to various flows are dynamically updated by a bandwidth allocation adaptor

and a variety of weighted fair queuing algorithms may be used once the dynamic bandwidth allocation algorithm determines the bandwidth allocation for the various flows (see *Bansal*, p. 5 [0046] and p. 6 [0055]). Bansal further teaches a wide range of adaptive algorithms may be constructed depending upon the particular circumstances of the communication system to support the number of members of the defined groups (see *Bansal*, p. 5 [0046] and p. 6 [0054-0055]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor and Lee with Bansal to include, switching the bandwidth allocation algorithm to a maximum-aggregate-traffic algorithm, common-data-throughput algorithm or a common-power algorithm, in order to dynamically allocate system bandwidth using a wide range of adaptive algorithms that depend upon a nominal channel power level and an average effective data rate of mobile stations in a given coverage area.

Regarding claim 14, O'Connor in view of Lee teaches all the limitations of claim 9, but fails to explicitly teach a method, wherein responsively changing the bandwidth allocation algorithm comprises: switching the bandwidth allocation algorithm to use a first bandwidth allocation algorithm to allocate the radio frequency bandwidth among mobile stations within a first group of mobile stations; and switching the bandwidth allocation algorithm to use a second bandwidth allocation algorithm to allocate the radio frequency bandwidth among mobile stations with a second group of mobile stations.

In an analogous field of endeavor, Bansal teaches a method and apparatus for policy-based dynamic preemptive scheduling of data transmissions, wherein bandwidth

allocations to various flows are dynamically updated by a bandwidth allocation adaptor and a variety of weighted fair queuing algorithms may be used once the dynamic bandwidth allocation algorithm determines the bandwidth allocation for the various flows (see *Bansal*, p. 5 [0046] and p. 6 [0055]). Bansal further teaches a wide range of adaptive algorithms may be constructed depending upon the particular circumstances of the communication system to support the number of members of the defined groups (see *Bansal*, p. 5 [0046] and p. 6 [0054-0055]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor and Lee with Bansal to include a method, wherein responsively changing the bandwidth allocation algorithm comprises: switching the bandwidth allocation algorithm to use a first bandwidth allocation algorithm to allocate the radio frequency bandwidth among mobile stations within a first group of mobile stations; and switching the bandwidth allocation algorithm to use a second bandwidth allocation algorithm to allocate the radio frequency bandwidth among mobile stations with a second group of mobile stations, in order to dynamically allocate system bandwidth using a wide range of adaptive algorithms that depend upon a nominal channel power level and an average effective data rate of mobile stations in a given coverage area.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Connor, U.S. Publication Number 2004/0002339 A1 (hereinafter O'Connor)** and **Bansal et al., U.S. Publication Number 2004/0264500 A1 (hereinafter Bansal)** as

applied to claim 1 above, and further in view of **Nee et al., U.S. Patent Number 6,876,857 (hereinafter Nee)**.

Regarding claim 7, O'Connor in view of Bansal teaches all the limitations of claim 1. O'Connor in view of Bansal further teaches a method, wherein determining that a threshold number of mobile stations being provided communication services are concurrently operating in the given coverage area (see *O'Connor*, p. 3 [0052]).

The combination of O'Connor and Bansal fails to explicitly teach determining a current time of day; and using a predictive model to determine that the threshold number of mobile stations are concurrently operating in the given coverage area at the current time of day.

Nee, however, teaches a method and system of efficiently allocating bandwidth within a mobile communication network, wherein a time of day information and historic usage data of mobile devices in the communication network are used to more accurately predict the available bandwidth in contiguous cells (see col. 9, lines 9-35 and Fig. 2A). According to Nee, the current bandwidth allocation for a cell together with a predicted bandwidth usage for the time when the session would be requested from that cell can be combined in a weighted fashion to provide a more accurate prediction of the available bandwidth at some time in the future.

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor and Bansal with Nee to include a method of determining a current time of day; and using a predictive model to determine that the threshold number of mobile stations are concurrently operating in the given coverage

area at the current time of day, in order that an estimation of a current bandwidth allocation for a cell together with a predicted bandwidth usage for the time when the session would be requested from that cell can be combined in a weighted fashion to provide a more accurate prediction of the available bandwidth at some time in the future as taught by Nee.

8. Claims 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Connor, U.S. Publication Number 2004/0002339 A1 (hereinafter O'Connor)** and **Bansal et al., U.S. Publication Number 2004/0264500 A1 (hereinafter Bansal)** and **Lee et al., U.S. Patent Number 6,138,025 (hereinafter Lee)** as applied to claim 9 above, and further in view of **Nee et al., U.S. Patent Number 6,876,857 (hereinafter Nee)**.

Regarding claim 15, the combination of O'Connor, Bansal and Lee teaches all the limitations of claim 9. The combination of O'Connor, Bansal and Lee further teaches a method, wherein determining that a threshold number of mobile stations being provided communication services are concurrently operating in the given coverage area (see *O'Connor*, p. 3 [0052]).

The combination of O'Connor, Bansal and Lee fails to explicitly teach determining a current time of day; and using a predictive model to determine that the threshold number of mobile stations are concurrently operating in the given coverage area at the current time of day.

Nee, however, teaches a method and system of efficiently allocating bandwidth within a mobile communication network, wherein a time of day information and historic

usage data of mobile devices in the communication network are used to more accurately predict the available bandwidth in contiguous cells (see col. 9, lines 9-35 and Fig. 2A). According to Nee, the current bandwidth allocation for a cell together with a predicted bandwidth usage for the time when the session would be requested from that cell can be combined in a weighted fashion to provide a more accurate prediction of the available bandwidth at some time in the future.

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor, Bansal and Lee with Nee to include a method of determining a current time of day; and using a predictive model to determine that the threshold number of mobile stations are concurrently operating in the given coverage area at the current time of day, in order that an estimation of a current bandwidth allocation for a cell together with a predicted bandwidth usage for the time when the session would be requested from that cell can be combined in a weighted fashion to provide a more accurate prediction of the available bandwidth at some time in the future as taught by Nee.

9. Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Connor, U.S. Publication Number 2004/0002339 A1 (hereinafter O'Connor)** and **Bansal et al., U.S. Publication Number 2004/0264500 A1 (hereinafter Bansal)** as applied to claim 16 above, and further in view of **Lee et al., U.S. Patent Number 6,138,025 (hereinafter Lee)**.

Regarding claim 19, O'Connor in view of Bansal teaches all the limitations of claim 16. O'Connor in view of Bansal fails to explicitly teache a method, where the

wireless network is a CDMA network, and wherein responsively increasing the amount of bandwidth allocated to the mobile station comprises increasing an amount of a forward supplemental channel allocated to the mobile station.

In an analogous field of endeavor, Lee teaches a method of distributing paging load in a multicell CDMA wireless network that supports wireless communications with a plurality of mobile units within a given service area (see col. 4, line 53 through col. 5, line 4), wherein a bandwidth allocation algorithm is used to allocate a forward supplemental channel (*e.g. FBCCH*) among the mobile stations and wherein the forward supplemental channel is used to send voice or data traffic from a base station to the mobile stations as part of providing communication services (see col. 3, lines 20-24, col. 5, lines 16-24, col. 6, lines 8-11 & 25-30 and col. 11, lines 52-64).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor and Bansal with Lee to include a method, wherein the wireless network is a CDMA network and wherein the bandwidth allocation algorithm is used to allocate a forward supplemental channel among the mobile stations and wherein the forward supplemental channel is used to send voice or data traffic from a base station to the mobile stations as part of providing communication services, in order to allow multiple mobile stations to share the same spectrum at the same time to maximize network bandwidth resources.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony S. Addy whose telephone number is 571-272-7795. The examiner can normally be reached on Mon-Thur 8:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A.S.A

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SUPERVISORY PATENT EXAMINER
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